

Low Temperature Method for Forming a Thin, Uniform Oxide

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ABSTRACT

This invention pertains generally to forming thin oxides at low temperatures, and more particularly to forming uniformly thick, thin oxides. We disclose a low temperature method for forming a thin, uniform oxide **16** on a silicon surface **12**. This method includes providing a partially completed integrated circuit on a semiconductor substrate **10** with a clean, hydrogen terminated or atomically flat, silicon surface **12**; and stabilizing the substrate at a first temperature. The method further includes exposing the silicon surface to an atmosphere **14** including ozone, while maintaining the substrate **10** at the first temperature. In this method, the exposing step creates a uniformly thick, oxide film **16**. This method is suitable for room temperature processing.

0247422-1000000